UNIT 8:
SCENE MANAGEMENT

Learning Objectives

By the end of this section, participants will be able to:

- List the components of an incident management system
- Briefly describe the functions of sections within the incident management structure
- Define hot, warm, and cold zones
- Describe the First Responder's initial actions on arriving at a hazardous materials incident
- Describe decontamination procedures
- Describe termination procedures
- Explain why post-incident analysis and evaluation is a necessary element of scene management

INCIDENT MANAGEMENT SYSTEMS

Effective scene management depends on a well-defined structure that is outlined in standard operating procedures, routinely practiced, and used at all incidents. An operation without an incident management system leads to poor use of resources and endangers the health and safety of response personnel.

In situations involving hazardous materials, incident management systems are not only useful, they are required by regulations established by the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA). The regulations that specify the use of an incident management system are 29 CFR 1910.120 and 40 CFR 311, respectively. All fire fighters not covered by federal OSHA are covered by EPA regulation.

An incident management system places one person in charge of an incident and guides deployment of personnel and equipment. It organizes personnel and tasks so that the person in charge is not overwhelmed. It eases communication by identifying reporting relationships and establishing a chain of command among personnel.

This type of systems approach applies to small incidents involving one or two companies as well as large incidents involving agencies outside the fire department and crossing jurisdictional lines.

System Positions

Incident Commander

The Incident Commander is the sole person in charge and is accountable for the actions taken at the incident. He or she is the highest authority at an incident scene, whether this individual is a fire fighter, fire chief, or a representative of another organization. The Incident Commander is responsible for establishing strategic goals (determining whether offensive or defensive operations are appropriate) and the tactical objectives to meet those goals. The Incident Commander's roles and responsibilities are described in 29 CFR 1910.120 (q)(3).

Many departments assign command to the first officer of the first arriving fire department company. This ensures that an individual is in charge of the incident from the beginning.

The initial Incident Commander remains in command until command is transferred or the incident is stabilized and terminated. Command may be transferred to an officer with more command experience, more knowledge of hazardous materials, or other unique qualifications.

Support Staff

The Command Staff assists the Incident Commander. Since these are staff functions, their purpose is to support incident operations. None of these positions is directly involved in rescue, fire suppression, or hazard control, but they are essential to successful operations.

Safety

The Safety Officer position should be implemented at every hazardous materials incident. Though the Incident Commander has overall responsibility for the safety and health of fire department members at the scene, an Incident Safety Officer is appointed to help manage this task. The Incident Safety Officer assesses hazardous and unsafe situations at emergency incidents. In order to function effectively, this individual must have authority to prevent or stop unsafe acts that present an immediate danger to life or health.

Liaison

Numerous government agencies and private firms may become involved in hazardous materials incidents. The task of coordinating responding agencies may become too great for the Incident Commander, and a Liaison Officer may be appointed to assist in this function. The Liaison Officer helps to keep resources at a manageable distance from the Command Post while coordinating their efforts.

Public Information

A Public Information Officer may be appointed if the Incident Commander requires assistance in providing information to the public and the news media. There may be a great demand for information regarding an incident, or the news media may be particularly helpful in supplying evacuation information to the public. Like other staff positions, the Public Information Officer must be trained and practiced in the role before an incident occurs.

Command Staff

There are four functions that may be established in an incident and each answers directly to the Incident Commander.

The **Planning Section** is responsible for collecting, evaluating, and disseminating information about the incident and available resources.

The **Logistics Section** assists the Incident Commander in providing facilities and services to support personnel at the incident.

The **Finance (Administration) Section** is responsible for tracking all costs related to an incident.

The **Operations Section** is the Section most often activated by the Incident Commander. It is the Section that is responsible for most of the tactical planning and direct action.

Divisions, Groups and Sectors

Divisions

Divisions refer to multiple resources operating in a geographic location. A large hazardous material incident may be divided into more than one area--Division A, Division B, Division C, etc. Generally, division A is assigned to a geographical location at the front of the incident. Then additional divisions are assigned in a clockwise direction.

Groups

Groups refer to multiple resources assigned a function that may transverse divisions. Groups may also carry out a specialized task within a division.

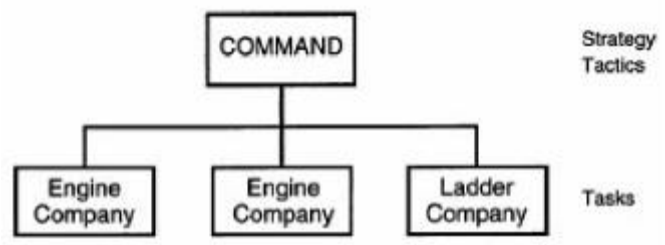
Sectors

Sectors can be based on either geographic or functional considerations. Sector is simply another term used by other incident management systems, to describe either a division or group.

Command Responsibilities

Regardless of the type or complexity of an incident, a command structure operates at three levels: the strategic level, responsible for overall incident command; the tactical level, representing grouped resources; and the task level, responsible for completing the objectives of individual companies or units. An example demonstrates how these levels are addressed at hazardous materials incidents. An incident, such as a dumpster fire, may start with only an engine company responding and the company officer filling the Incident Command function. Strategy, tactics, and tasks are formulated and carried out by this single unit.

Components are added as needed. For example, if the dumpster contains water-reactive materials and the application of water causes the fire to extend to a nearby building, the response may expand to involve two or three companies. The Incident Commander remains in charge, with those in charge of the responding companies answering directly to the IC.



Only in the smallest incidents can the Incident Commander continue to manage all of the major and strategic areas. If the incident escalates, he or she must delegate some responsibilities. If the fire in this example extends to several areas of the building, additional resources will be needed. These resources will be organized into Divisions/Groups or Sectors.

Response Objectives

There are a number of basic objectives that must be met by the first units and the commanding officer on arriving at the scene of a hazardous materials incident.

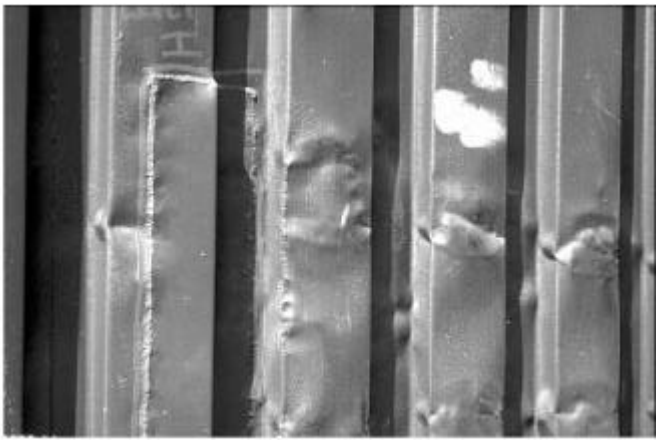
First, **establish command and secure the area.** Establish controlled access areas starting at an outside perimeter and work toward isolation of the contaminated area. After you secure the outer perimeter, establish warm and hot zones.

Hazard area secured with fencing and signs

Survey the scene and size up the situation. Regardless of the hazard, the strategic priorities are the same: life safety (operating forces and civilians), incident stabilization, and property and environment conservation.

After initial sizeup and communication of incident status, **collect additional information.** Determine the identities, quantities, handling considerations, and locations of the involved hazardous materials; by what means the material is spreading; and the hazards likely to result from the spill or release.

Next, **evaluate container damage.** Use all available information to evaluate the stability of the hazardous material containers.



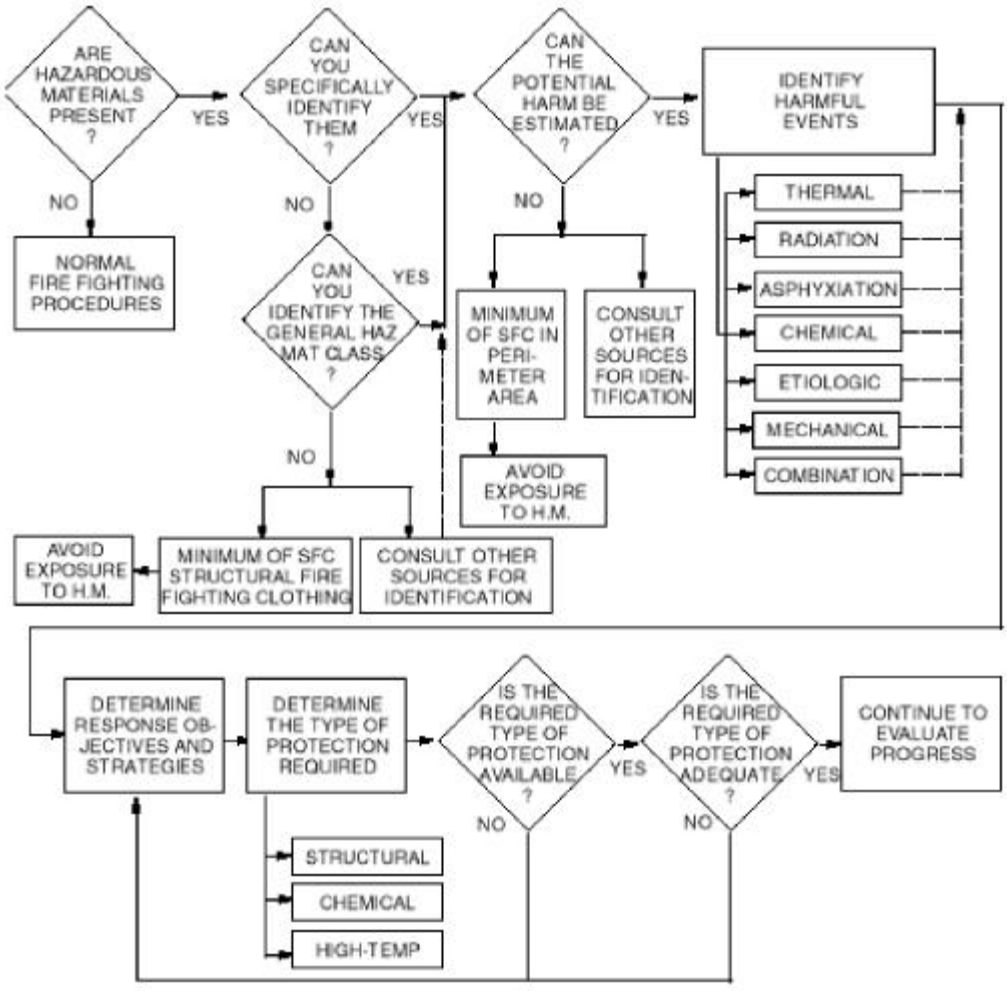
Damage to intermodal container containing radioactive materials

Assess vulnerable populations and evaluate the need for rescue and protective actions for groups of people. Rescue of endangered individuals at hazardous materials incidents should not be performed unless the safety of the rescuers can be assured.

Isolate the hazard. First Responder actions for isolating hazards are limited to defensive tactics only. While response recommendations found in references and advice from experts should influence the Incident Commander's decision regarding tactics, he or she must also weigh the risks and benefits of specific actions.

Continue to evaluate the situation and make decisions based on new information. Most experienced responders use a process for making decisions. A process ensures that decisions are arrived at in a logical, well thought-out way. An example of a decision-making process is shown on the following page.

A DECISION MATRIX



*SFC--- Structural Fire Fighting Clothing

ESTABLISHING A HAZARD AREA

As a First Responder, you may be involved in several different roles at hazardous materials incidents. One of your most important initial actions is isolating the hazard area by establishing zones.

Hot Zone

The hot zone (also referred to as the hazard zone, the restricted zone, or the exclusion zone) is the area in which the hazardous material is actually located. It is the area of maximum hazard and is restricted to essential personnel using appropriate protective clothing and equipment. Access to this area is tightly controlled at a single entry point, and no one is allowed to enter this zone for any reason without a “buddy.” Also, prior to entry, a backup team with the same number of members as the entry team must be standing by.

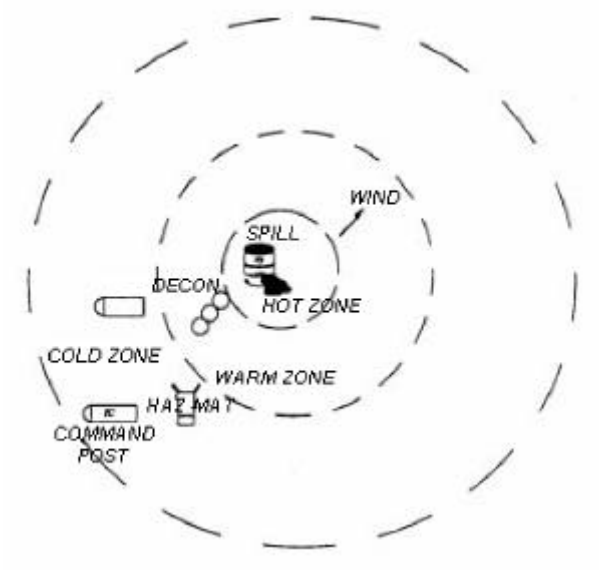
Time within the hot zone must be minimized through careful planning and monitoring. The entry team must have communication devices and alternate plans for communication if radios do not function. There must be an emergency recall system in case it becomes necessary to rapidly evacuate the area.

Warm Zone

The warm zone (also called the transition zone or the contamination reduction zone) is a transition area between the hot zone and the cold zone (clean area). This area, located away from the hazard, helps prevent contaminants from spreading to unaffected areas. Decontamination takes place in the warm zone, and personnel must use protective equipment appropriate to the level of hazard. The line that separates the hot zone from the warm zone is the hot line, and this may be marked with barrier tape.

Cold Zone

The cold zone is the area beyond the range of potential contamination. The public is excluded from this area to allow the fire department and other emergency response agencies to function. The command post, treatment area for decontaminated patients, and rehabilitation area for emergency response personnel are established in the cold zone.



Zone set-up at a hazardous materials incident

THE MEDIA

Whenever a hazardous material is involved in an incident, regardless of whether or not there is a release, the public is likely to assume it is a dangerous situation.

Although it is important that you know how to communicate with the media and the public in case you are acting as a public information officer, be aware that in most cases public information must come from a single authorized source.

Responding to Interview Questions

If you are to be interviewed, anticipate the questions the media will ask and prepare for them. In many cases, technical and hazard information can be supplied by the shipper or government agency. Avoid the pitfalls of an interview:

- Repeating the negatives
- Denial
- Attacking
- Responding to worst-case scenarios

Select three key points you want to address to the public, and formulate short, to-the-point responses that answer the question *and* focus on your key message.

When an interviewer poses a question, structure your response in the following way:

- Identify with interviewers by recognizing their concerns (“Yes, I used to think that, too..”)
- Give information by describing what the hazardous material is, and what it does or does not do. Provide the facts.
- Explain the action the fire department and other responders are taking to control the situation.

Always keep in mind that the media may be more interested in building up the more sensational aspects of a story. Despite the precautions that may have been taken, the public perceives any hazardous materials as a serious threat, and the news media will focus on the danger angle.

TERMINATION

Termination of an incident should follow carefully developed procedures that include transferring command (if cleanup operations will continue beyond the emergency phase), record keeping, debriefing, and post-incident analysis. Though the environment surrounding a hazardous materials incident may have to be cleaned up, this is not the responsibility of fire fighters.

Records that should be collected may include logs from the Decontamination Officer/Leader, the Incident Safety Officer's report or log, and documents generated by the Incident Commander. Any written information about the materials involved, such as shipping documents or MSDSs, should be turned over to the Incident Commander.

Debriefing should occur as soon as possible after the incident has been stabilized. The debriefing process ensures that all participants have a basic understanding of what materials were involved and any relevant health risks. The Incident Commander should also take this opportunity to supplement reports with information from personnel operating at the scene.

Post-Incident Evaluation

The post-incident evaluation is a key element in improving emergency response to hazardous materials incidents. The analysis may be used by the fire service only, or it may be shared with other agencies, industries, or private contractors that need the information for planning and prevention activities.

During the analysis, all aspects of the incident should be reviewed. The incident itself and relevant events leading up to the incident should be summarized, followed by a review of all procedures and responses by the fire department. These may include command and control, tactical operations, interagency cooperation, and resources and support services.

Health and safety issues related to the incident should be evaluated and follow-up extended to anyone exposed to the hazardous materials.

Information that is collected and reviewed as part of this process should be used to identify areas for improvement, standard operating procedures that should be revised, and implications for training. The information can also be used for pre-planning. In this way, review of the incident can have a very positive effect on your health and safety.